III

TOWARD THE CRUX OF THE MATTER

Now Badakhshan is not a new province to Afghanaid and accordingly its problems are not new to it. Familiarity and even concern with them have attracted much past Afghanaid attention and even some studies (i.e. Nutrition Survey Report: Badakhshan, Jowzjan and Faryab, 25 July-26 November, 1990).

Similarly the problem of food shortage is not new and has almost always been a frequently recurring phenomena; that is Badakhshan has rarely been self-sufficient in food production. Only its degree has fluctuated over time.

Also not new must be the vulnerability of its agriculture to nature's whims (untimely frost, drought, crop diseases, etc.).

What is perhaps somewhat "new" in causing the critical situation this year is the cumulative effect of the factors which together are producing the straw that is too much for the already fragile back of the multitudes trying to manage their precarious life of subsistence.

Quite probably such an eventuality could have been predicted over time by close observers of Badakhshan. What has caused it to be suddenly pushed to the surface in its rather stark form this year may be enumerated below:

1. An exceptionally hard winter with heavy snows not noted in recent memory (some said 35 years!). This prolonged the normal dormancy long enough to delay growth depending on the nature of the crop or the specific location.

2. The longer snow cover also did not leave without damage the Fall wheat crop.

3. An untimely cold and frost in the Spring of this year further aggravated damage or losses to the agricultural sector particularly fruits such as almond, mulberry and walnut. The latter two and specially mulberries serve as a kind of staple food.

4. A very dry season beginning in early May and continuing throughout the Summer. We arrived in Faizabad on 5 June and left it on 10 August. During all this time there was no rain (on 15 June there was a brief 15 minute downpour and that was all). The damage to the rain fed wheat crop was already irreparable. It should also be mentioned that the last few years have been semi-drought Years. This was mentioned by some including the Deputy Governor, Dr. Abdul Wadood. This is quite unfortunate because the NUTRITION SURVEY REPORT FOR BADAKHSHAN, JOWZJAN AND FARYAB CARRIED OUT BY AFGHANAID IN 1990 adds that the problem of food availability "has been made worse in Badakhshan because of three years of drought" (P.27).

5. An unusually hot Summer (40 degrees centigrade for a couple of weeks or more). The resulting high evaporation accompanied by lack of rain caused the shrinkage of the seeds of the rain fed wheat crop. Since most of the wheat crop harvest is from rain fed land it is clear that the entire harvest of Badakhshan for this year will be affected.

6. As if the above were not enough crop diseases such as rust (which dries and destroys the leaf,spike, and the stem of the wheat plant), smut and bunt (which harm the grain itself) damaged both rain fed and irrigatable wheat crops in widespread areas.

Points 4 and 5 and 6 above together brought the seed to yield ratio for the rain fed wheat harvest in some locations to as low as 1 : 1.5 at its worst. That is why we heard often that in some places the farmers will be happy to just reap or get back the seed they have cultivated.

7. Finally, the hot weather caused the snow to melt at such a dangerously rapid rate that the rise of the water level in the rivers was also unprecedented in recent memory. The large volume of water with its quite rapid flow flooded orchards, agricultural lands (not to mention the threat to or the washing away of homes, mosques, schools etc.) and caused not only widespread damage to canals,canal intakes and many irrigation systems but also caused much idle manpower which simply had to wait until the water level would recede to a level that would permit repair work again so that water would flow into the irrigation system and on the cultivated lands. But by this time (late June and early July) some harm was already inflicted on some irrigatable wheat crops also.

From the above it is clear that for most, hopes to get a breathing space at harvest time this year were shattered. Sadly enough as things went from bad to worse for the majority the human element and its market mechanism also added its share to the hardships. During the harvest of last year agricultural laborers got one seer of wheat (7 kg) per day of work. This year we heard in several places that this was halved. Since at this time (end of June) the price of one seer of wheat was around 5000 Afghanis this meant that the effective wage amounted to around 2500 Afghanis. Further enquiries in Badakhshan[1] confirmed that the daily wage was between 2000--2500 Afghanis. The overall shortage of wheat, the stronger bargaining position of the land owner, and the eagerness of the laborers to work at "any price" all contributed to push the quantity of wheat offered to half of last year's. Although this year's daily wage at this time was about 1000 Afghanis higher than last year's (September, 1994) it still did not keep pace with this year's prices.

To cope with its perennial food shortage Badakhshan has always obtained it from Takhar Province on the west; its only bread basket. " Without the Qataghan land" (the former name for the provinces of Kunduz and Takhar combined and before it was divided into two separate provinces) "to supply us with bread Badakhshan would expire" (gradually die) is the saying by some elders. The traditional road from Badakhshan to Takhar is the road that links Faizabad to Taloqan (the capitals of the two provinces respectively). It is important enough to be the subject of the next section.

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1 Jurm, Baharak, Faizabad, Drayem, Batash, Lie-Abeh and Tishkan villages.

IV

THE VITAL FAIZABAD TALOQAN ROAD

This road is 180 km long and was built some 50 years ago according to driver Omar, a pleasant old man with a partially bent back, who was the first to cross it. After explaining how he carried the necessary items and facilities to Faizabad to help in the preparations which were being arranged to receive the dignitary from Kabul Prince Mohammad Naim the king's cousin and brother-in-law and the then minister of education and who was accompanied by Sher Khan the then governor of Qataghan and Badakhshan for the inauguration ceremony of the opening of the road (incidentally the Sher Khan port in Kunduz is named after this same governor). Driver Omar, who is originally from Ghazni, said he "remembered how many people in the then very small town of Faizabad had gathered with enthusiasm to see the biggest event of their lives".

Sitting in his modest auto parts shop in Faizabad he was very pleased to hear someone enquiring about this road and especially the famous Qara-Kamar Pass section of it. "In the first place let me tell you that anyone who can pave or repair this road will be gaining the gratitude and good will of the people of Badakhshan for ever. And secondly," he continued, "let me tell you that at the beginning Qara- Kamar was not a pass. Lorries could travel on it with their loads in gear two believe me." Over time the gradual "pouring of earth, sand and gravel from the cliff or mountain side on the road surface raised and turned the road into a pass", he added. This explained why the road is so narrow now that lorries travelling on it have literally one of their double rear wheel tires rotating in the air. This is also why daredevil Afghan drivers ask passengers to walk while they negotiate their way through the narrow road (these narrow parts were actually seen when the road survey began).

The next quite important information gained from the conversation with driver Omar was when I mentioned to him the possible difficulty of constructing a retaining wall along the side of the road adjacent to the river some 50 meters down below. He pointed out that down below where the road at first was built is a stone wall construction which has been covered (or buried) over time by the earth and gravel or stones pouring from above. Every "layer" of the road surface that can be "scraped" away and lower its elevation will automatically widen the road. I also asked him what places on the road he thought needed the most urgent or immediate attention. He said there are five or six places on the road which if corrected would both ease travel and make the road usable for a longer duration during the year (the names of these places will be stated in Appendix 1l).

I visited two other known Badakhshan drivers Mr. Mohammad Anwar and Mr. Abdul Rahim in Baharak separately on August 6th and 7th. What they told me about the road in general confirmed what I had learned from the first driver. However, these two persons did add that the work will not be easy but the challenge and the reward will be that much more. They both added that on this task probably many truck owners will gladly help.

It was quite unexpected to see people who were absorbed in explaining their problems and needs either at the village level or at the level of a district (like the district chief of Shahre-Bozorg) after hearing us mention, among the planning team's current activities, the survey of the Qara-Kamar road to immediately say "if you are working on that road then forget about our requests and problems. That road is Badakhshan's artery. Our needs can wait". We were surprised and impressed at the promptness of such responses.

The preceding pages have attempted to show some of the major problems facing Badakhshan and in this way it is hoped to have paved the way for the conclusion in the next section.

V

CONCLUSION

In the attempt to "Overview" the province some familiarity with the problems and needs of its communities was gained. Now it is possible to see that many needs are urgent and that they indeed do compete for position on a priority list.

Unfortunately, however, the task of priority determination is made inordinately simple because no priority is higher than the right to live or survive and nothing is more needed for survival than food (and peace). Circumstances noted in relative detail make it clear that for the inhabitants of Badakhshan this right can not be taken for granted and is a recurrent preoccupation. (Just as the right to clean air may be increasingly under threat by industrial civilization).

There are two ways to enhance food supply in Badakhshan both of which are also complementary to each other:

1. By means and methods which enable an increase in food production within the province, that is by attention to agricultural activities.

2. By facilitating its transport from Takhar and beyond. This point is directly related to the vital road which was discussed in the previous section.

Aside from its fulfilling a vital need attention to agricultural activities is also consistent with Stated Afghanaid policies or objectives, namely, investing to improve "...the present low capacity for food production" (Afghanaid 1994-1995 Proposals, p.1).

Furthermore, this is a type of activity which, with some effort, can be made sustainable because of its familiarity to the people as well as its quite understandable tangibility. It also increases self-reliance, cannot cause dependence if carried out properly with sufficient well thought out extension work and all of it is feasible. Finally agricultural activity is responding to a felt need.

Implementation of such activities and because of their well understood tangibility in fact increase the individual's sense of adequacy, confidence, self-respect and above all instill a sense of self-worth, <u>a much needed value and attitude that should be developed in all development oriented activities, particularly because of its intrinsic value in paving the way for further development needed attitude changes.</u>

Because Qara-Kare is a vitally needed transportation link as pointed out above and because of its complementarity to the first point it must also receive attention. In fact this was already recognized by the Field Office in Peshawar and that is why the survey of its more difficult parts and the parts which hamper travel more often was assigned. It is within the framework of this concluding part that most recommendations are suggested in the next section.

VI

RECOMMENDATIONS

In the introduction it was mentioned that in order to be able to obtain a possible tangible result..."something more fundamental, more enduring and hopefully more permanent is needed to enable at least a beginning of a crack in the siege over time". The focus on agriculture (especially wheat production) and the Qara-Kamar road seem to be the type of two-pronged attack necessary for the possible beginning in this direction. Most of the recommendations which follow revolve around this major concern.

1. Needed--A New Time Horizon And Commitment

Two types of agricultural activities (or their combination) can result in increased food production (or increased agricultural production in general).

a) Extensive Type of Agricultural Activities which involve increasing production by increasing the cultivable land area (this is not our immediate present concern).

b) Intensive Type of Agricultural Activities which require increasing production by improvements, modifications, or increases in inputs other than increases in acreage (such as water, fertilizers, pesticides, quality and quantity of seeds plus quantitative and qualitative changes in organizational and farmer skills as well as in practices such as ploughing, irrigating, weeding, etc.).

People working in agriculture know better than anyone else that all agricultural activities are processes which must have synchronized coordination between climate, inputs, and man's activities. All intensive agricultural activities need planning and time for specific progressive improvements to take place and they require careful and close supervision, control and follow up. All this needs a time horizon much longer than one year and an approach entailing a commitment to close face to face contact in the field. This type of commitment is a requisite for affecting the attitude changes necessary for inducing intensive agricultural activities. These activities will need trials and observations both in the experimental as well as the implementational stages. Both extensive as well as intensive agricultural activities are development oriented activities (not rehabilitation activities). The acceptance and inculcation of such a time horizon and outlook with the accompanying attitude commitment is our first recommendation.

2. Viewing OF Agricultural Activities As A Vital And Total Whole.

This is needed because of two reasons:

a) Agricultural sector's contribution to the national economy of any underdeveloped country includes:
   i. production of food surplus above its own needs to feed the growing non-agricultural population (not to mention saving of much needed foreign exchange by not having to import food items);

ii. production of industrial raw materials such as cotton, wool, sugar beats and hydes for the nation's textile, sugar and leather industries respectively;

iii. possible agricultural exports to earn foreign exchange with which to finance vital capital and other imports;

iv. potential for taxation of a "prosperous" agricultural sector to partly finance its development effort;

v. the possibility (and necessity) of a productive agricultural sector providing its "excess" labor force to the other sectors of the national economy without reduction of its own production and finally;

vi. a healthier agricultural sector, being the dominant sector of the economy, can provide the needed market for the products of the newly emerging industrial sector of the economy.

These contributions are vital for any development and industrialization effort. The agricultural sector must become a strong backbone for the uplift of the national economy.

b) The amalgam of cooperant factors affecting agricultural activities must each be considered as an inseparable part of a total whole in order to be able to plan which one or which combination to address for the objective in mind. These cooperant factors include:

i. climate.
ii. soil.
iii. water.
iv. the element of time (the season's cycles).
v. the cultivation process (i.e. soil preparation, ploughing, seed cleaning and treatment, sowing, fertilizer application, weeding, irrigating, crop rotation, etc.), and finally.
vi. institutional and organizational factors (i.e. the prevailing land tenure patterns, storage, market and credit facilities and accessibility to health and educational services, availability of extension information and services etc.).

Within this vital and total whole Afghanaid must seek to influence those factors which are within its domain of present and future capabilities as they may evolve.

3. The Dimensions Of Increasing Wheat Production

For this purpose it is recommended that the Afghanaid agricultural personnel study the processes involved in wheat production from the beginning to end with the view as to where in the various stages of this process Afghanaid's expertise should be applied for

what purpose and with what kinds of inputs. It might be noted in passing that increase of wheat production can have three dimensions:

a) By improving existing methods and practices with no new inputs other than demonstration of new methods and practices (such as seed cleaning, weeding, crop rotation, irrigation timing, terracing, etc.).

b) By preventing reduction of existing production by crop disease through the introduction of crop protection agrochemicals.

c) By the introduction of new seed varieties and the application of chemical fertilizer, presently for irrigated wheat only but in the near future its extension to rain fed wheat should also be seriously studied, tried and applied.

It can be seen from the above that only item c is dependent on large shipments of improved seed variety and chemical fertilizer which can be hampered by the difficulties of accessibility. In item b pesticides can be shipped by air. So attention to two of the three points above cannot be impeded by road and communication links.

4. Extensive Extension Work And Additional Personnel

Extensive extension work should be envisaged by expanding of the provincially recruited and trained agricultural personnel and its possible availability at each locality (region, area, district, etc.) with close contact and blending with the communities of the target area as part of the approach to be used.

5. Respecting And Adjusting To Nature's Seasons In Badakhshan

Presently the provincial teams arrived in Faizabad on 24 June. It is agreed that this is late in the year. It is therefore recommended that on the one hand at least the agricultural staff arrive much earlier and on the other hand some newly recruited personnel (preferably employed locally year round) remain in the province to be on hand in March (in some localities such as parts of Faizabad and Keshm, Spring can arrive in late March or early April).

6. Province Wide Suggestions With New Emphasis Areas For Agricultural Activities to Be Selected

The recommendations concerning wheat production are for the entire province (and not just one or several villages) taking into account of course the areas where irrigated wheat (i.e. Baharak, Jurm and Keshm) and rain fed wheat (i.e. most of the other districts of the province) are more prevalent. However due to the most critical food situation in districts such as Ragh, Darwaz, Khwahan and Wakhan it is recommended that the possibility of a sub-office in one (or more) of these districts (like the one in Jurm) be studied. One criteria for its location might be a sort of "center or hub" from which neighboring localities could be reached easier than from Faizabad and the new activities more closely supervised and monitored.

7. **Task Force Needed To Address Chronic Food Insecurity**

To proceed with a tangible program for the attempt to tackle the problem at hand a sort of a bootstrap operation on our part seems warranted. To do this it is recommended to set up a Task Force which will not only "mobilize" Afghanaid's resources (expertise and otherwise) but should also advise on how and where to muster support from other agencies for the avowed purpose (fortunately Afghanaid was in the forefront of articulating the seriousness of the food situation in some districts of Badakhshan to some other agencies during last Summer in addition to making a relief commitment from its own sources).

8. **Please See Appendix I For More Specialized Recommendations Concerning The Various Agricultural Sector Activities**

9. **Please See Appendix II For Engineering Recommendations**

OTHER RECOMMENDATIONS

10. **Pilot Area For An All Encompassing Undertaking To Rural Uplift**

The command of its past experience and the present quality of its personnel make the suggestions for the selection of an area consisting of several villages for the purpose of responding not only to its agricultural needs but also to a wider range of community needs entailing income generating activities, education, health and hygiene, fuel saving, child care, social forestry, etc. or in short a whole range of interrelated activities which can culminate in what may be termed community betterment or uplift not untimely or inappropriate.

In its not too distant past Afghanaid took pains to manage very risky life saving rescue operations (its well known ambulance service at the battle fronts). Later it undertook relief work under much duress. It organized marathon journeys by drought animals through formidable passes to bring materials to its rehabilitation project sites. Can't it now take up the challenge emanating from a broadened endeavor. Will not the reward of seeing the children of a few villages healthier, better dressed, literate and with a hopefully more promising horizon be more memorable than whatever it has done so far. (This horizon for children is distressingly revealing. A detailed socio-economic study of two villages in Northern Afghanistan showed that infant care, child rearing practices, "toys" available, games played and opportunities for the growth of the child were exactly the same for the children of the rich and the poor. The only difference noted was in the food and clothes. The horizons of the two categories of children as expressed in their ambitions and perceptions did not differ noticeably. So in these two villages, and perhaps rural Afghanistan in general, opportunities for both the children of the poor and the rich are the same -- not very much. Must it remain so for ever?). The ultimate aim of such a pilot project might be to gradually enable the community to organize itself so that within the range of its means it can develop the coping mechanisms for the tackling of its problems and most importantly to learn to give direction to its future.

11. Needed--A Pilot Water Well Project For Demonstration Purposes

It is recommended to dig one well to either confirm or dispel the prevalent view that wells will not work in Faizabad or even in Badakhshan. Perhaps one suitable site for it might be the compound of the Afghanaid Office in Faizabad. Should it "work", a great "discovery" and demonstration will have been made concerning potable water and water for household needs .

12. Verifying Paralysis Caused By Plant

It is advisable to contact expertise concerning the confirmation of the paralysis caused by the eating of the plant locally called Pa-tek and having the Latin name Lythus Sativas, and of course its cure and prevention.

13. Providing Literates Useful Reading Materials

The "high" incidence of literate people (women, men and youth makes the idleness of this golden skill a very unfortunate social loss. It is therefore recommended that Afghanaid which has one of the longest histories of familiarity with Badakhshan among the NGOs take steps to seek sources for reading materials among other agencies and solicit their cooperation as well as to cooperate with them in the collection of such materials for the province. Such materials could include pamphlets, brochures, leaflets etc. They could cover a wide range of interesting subjects including infant and child care, home economics, health and hygiene, fuel economy, materials for youth, agricultural information etc. Preference should be given to simple, clear, and if possible pictorial materials.

14. Diversification Of Income Generation Information

Presently Afghanaid's income generation projects include apiculture and poultry at which it has shown dexterity. It is advisable to diversify our information on a variety of income generating projects. This will equip us to better respond to activities augmenting family incomes in situations where one or both of the above are not feasible. The increasing of the range of choice can be a useful practical asset.

15. Convey Shortage of School Supplies And Teaching Materials To Relevant Agencies.

With schools open and the enthusiasm for attendance high both among pupils (boys and girls) and teachers alike (they are teaching without their salaries being paid for several months) it will be a pity if no way can be found to provide some basic school and teaching necessities to eager pupils. There are a number of NGOS whose interest and work in these areas are well known. Perhaps contact with them will result in some action.

I

INTRODUCTION

Nature, human fallibility, commanders and an interwoven array of difficult and often mutually reinforcing circumstances appear to have colluded in order to enable misery to finally lay siege to the Province of Badakhshan and its inhabitants. Attempts to seek ways to overcome this seem to run into such an impregnability that is surpassed only by the tribute that must be due to the ability of the multitudes who are patiently and quietly enduring it.

Being embraced by apprehension is unavoidable when trying to contemplate where to even begin to ease the burden of the siege. Hoping to pass through the web of existing socio-economic and political barriers protecting and perpetuating the relatively newly formed but not yet quite securely established nor widely accepted social structure of power and privilege in order to simply understand more can become a terribly agonizing exercise. In this milieu of interdependent and seemingly formidable circumstances affecting the present malaise attempts to set priorities to tackle the myriad of problems facing the Province is almost sinful because everything asks for priority.

Some of the problems which are among the culprits to this misery may include an acute food shortage this year causing abandonment of many villages, a low agricultural yield ratio even by Afghanistan standards, being forced to eat a plant that causes (or is believed to cause) partial paralysis, difficulty of accessibility to the province that literally affects everything, having five provincial districts that have no road access at all, an oblivious and aloof provincial government, a seemingly inhospitable and now turned hostile nature and so on.

Something should also be mentioned about the narrow margins left for survival which finishes all forms of vegetation cover or in brief anything that can be eaten, sold or burned. This annihilation of nature's vegetation cover renders soil, topography, irrigation systems, agricultural land, roads and even whole villages completely defenseless against the effects of rain, snow, sunshine, wind and erosion. By doing this in order to simply survive through the desperate present; the present population will be leaving the future Badakhshan generations even more despondent than itself.

In the absence of a coherent, well thought out,well envisaged strategy and a well planned and coordinated implementation scheme on a provincial scale to tackle these problems a let up in the accumulation of misery can not be expected. By any count the pace of problem accumulation far exceeds the combined effort (and there is no such a thing) to prevent at least its further accumulation let alone its lessening.

The magnitude and scope of the problems facing Badakhshan this year requires an attention as urgent and as immediate as those that make domestic headlines in some countries. But Badakhshan's difficulties like many similar to it around the world is not attracting much attention. One is reminded of the saying: "If the infant never cries how will the mother know he wants milk". Badakhshan is not crying and it would not help even if it did. Most of its inhabitants are quietly enduring it, some are quietly abandoning it.

APPENDIX I

AGRICULTURAL REPORT
By Mohammad Waheed

I. INTRODUCTION

Badakhshan is one of the poorest provinces of Afghanistan. People of this province practice old and backward methods of agriculture even by Afghanistan and particularly the neighboring province of Takhar standards. This has made the agricultural system exceptionally susceptible to nature's whims and fluctuations.

Due to lack of better agricultural facilities, inadequate amount of water, ill-handled irrigation practices and no widespread use of any kinds of fertilizers and the incidence of plant diseases and insects, the level of agricultural production is very low.

After spending two months in Badakhshan, making interviews with a number of farmers in various villages in different areas and observations in Jurm, Baharak and Keshm districts as well as different places in Faizabad, Yaftal, Argu, Derayem and Teshkan areas, the state of agriculture and animal husbandry was fraught with severe problems and shortcomings. This report is a discussion of these problems. Recommendations will follow at the end.

II. SOIL AND IRRIGATION RESOURCES

Observation indicated that in most places the soil is sandy. It is very poor in regard to nutrients and organic matters.

Most agricultural land is on sloped lands and plots with not much terracing. As a result of rain and irrigation the top soil with good quality is washed away gradually and it gets poorer. The steep rain-fed and sloped irrigated lands have caused the following problems.

- It makes farming difficult.
- Amount of wheat sown increases.
- It requires more irrigation.

In unlevelled land the plants in higher parts can die of water shortage, while those in the lower parts fail due to accumulation of too much water. The farmers say that mostly wheat falls victim to this problem. Moreover, in this kind of land fertilizers and nutrients tend to accumulate in the lower parts of the land confronting plants with under dose in the upper and over dose in the lower parts, both to the detriment of the plants.

Chemical fertilizer is not common in Badakhshan because it is either not available in the province, or, if available, it is too expensive and the people can not afford buying it. For instance, one bag of urea in Faizabad city costs 28,000 Afghanis, in Baharak 50,000 Afghanis, and in Jurm 56,000 Afghanis.

As a result of the long lasting winters and lack of cheap fuel, the local residents collect all manure and remains of the plants they can get a hand on and use them as fuel. This process plays a vital role in deteriorating the quality of the soil. In addition, the farmers do not practice crop rotation systems. They plant only one kind of crop especially wheat for several years. This also makes the soil poor and reduces yields.

Owing to being rudimentary, the irrigation channels and canals are easily vulnerable to damages caused by floods and land slides. In some areas land slides and severe erosion make the irrigation water muddy, as a result of which the mud deposited on the surface of the agricultural land inhibits the germination, or growth of some crops. This has also created extra labor for the farmers because of frequent canal cleaning.

Many areas of the province have abundant amount of water, but the topography is such that the farmers cannot take full advantage of that water. However, the water is very effectively used for operating the water mills, situated by the irrigation channels, whenever possible. Shortage of irrigation and even drinking water is a widespread phenomenon.

III. CEREAL CROPS

The main cereal crops grown in Badakhshan are wheat, barley, millet, maize, rice, etc.

Wheat:

Wheat is grown both in irrigated and rain fed areas; in rain fed land mostly in Spring and Autumn. The yield of wheat, grown in rain fed land is 10-12 seers/jerib of land, while that grown on the irrigated land amounts to 20-30 seers/jerib of land on the average. This figure in comparison with the normal conditions is several times lower; and this year both figures have been much lower.

The main reasons for the reduced yields are as follow:

a) Topography of the agricultural land is not level.

b) Rainfall in recent years, especially this year, has been inadequate. Also the farmers, due to a variety of reasons, sometimes do not or cannot irrigate their land at the appropriate time.

c) Farming techniques and methods that the farmers practice - plowing, determining depth of the plant and date of planting, irrigation and weeding - are backward. Also the seed is infested with weed.

d) Crop rotation system is not practiced by the farmers, as a result of which weed has built up, the soil has become exhausted and yields have been reduced. Experiments have shown that weeds can reduce yields by as much as 11%.

e) The local varieties grown in the province are of poor quality and susceptible to diseases.

f) The farmers have no access to fertilizer, agro-chemicals, improved seed varieties and essential facilities. Smut, bunt, rust all harmed the wheat crop irreparably this year.

g) The long lasting winters and snowfalls have caused the following damages:

- Planting the crops in Spring has become subject to delay.
- The wheat planted in Autumn remained under the snow during Spring.

h) **Land Ownership And Production Resources:** The agricultural land is owned mostly by a few people and farmed by those who have no land, or are small land owners, or tenants. What the farmers receive in return for their work on the farm can range from one half to one seventh of the produce depending on the conditions of tenure.

Some farmers work on daily basis. Since the farmers are not owners of the land they farm, they do not show great incentive, nor do they make as much an endeavor as required for a successful farming.

j) The work of the former governments for the improvement of the agricultural sector and livestock for Badakhshan has been relatively negligible.

The improved wheat seed varieties distributed by Afghanaid in Badakhshan are Pak-81, Atay 85 and PS 85. However, the wheat varieties distributed were not planted on time, the farmers did not exchange the seed among themselves, the fertilizers were not used and also the farmers did not pay much attention to cleaning and treating the seed that had to be replanted. Extension activities are, therefore, essential if these deficiencies are to be remedied.

Barley:

After wheat, barley is the second cereal crop planted in the province on a large scale. It is planted in cold areas of high altitudes. Most of the barley varieties are of local type and are planted in the rain fed areas, giving low yield.

Barley is a fast growing crop, and is grown in the cold areas, where, due to long lasting cold seasons, the farmers cannot grow wheat.

Barley is mostly given to donkeys, the main transportation form of the province, but sometimes during famine it is ground with wheat, or by itself and used by the people. Also the flour of barley is mixed with wheat straw and is given to animals during winter. This increases the amount of Total Digestible Nutrient (T.D.N). In general, in some areas even barley bread is a blessing and sometimes a rarity.

Like wheat, there are also problems in planting barely e.i., the seed varieties are of poor quality and not resistant to diseases causing an infestation of weeds and reduced yield in per unit of land.

Maize:

Maize is also one of the main crops grown in the province. It is planted in irrigated lands. Maize is planted soon after the wheat is harvested. It is given to animals, when fresh, and also used by the people of those districts which have lower temperature and longer growing period.

Millet, Horse Bean and Rice:

Millet is grown in a limited amount in Spring and Summer for grain and grass. Like maize, millet is grown in irrigated land only.

Horse Bean is grown in irrigated land, especially in cold areas of high altitude in the months of March-April.

It is used as a decoction, and when ground with wheat is used as a foodstuff.

Rice is grown mostly in Keshm district because there is abundant water required for rice and the district has long crop growing period. It is planted after the wheat is harvested. It is either not grown in other districts of the province, or if grown, very little. In Baharak the amount of rice grown is worth mentioning, but the quality is very poor.

IV. FRUITS

The main fruits are walnut, apricot, almond, peach, cherry, black cherry, pear, apple, pistachios, etc. The people grow these fruits mostly in small and disorganized plots of their gardens and house yards in non-professional ways.

Walnut and pistachios grow naturally in the mountains, which perish with the passage of time as a result of different factors (We were told in Zardiv and Sarghilan valley, near Baharak, that some commanders buy walnut trees for fuel wood. In this valley we saw in several places chopped down walnut trees stacked to be taken away).

In comparison with other districts, the number of the gardens in Baharak and Jurm districts are relatively more.

The fresh fruits of these two districts are either sold in the district bazaars, or in Faizabad, while the dry fruits are also sold in the markets outside the province.

The fruits grown include local and improved species. However, the number of the improved species is much less than the local ones.

Lack of a technical gardening system is a big shortage. The diseases and insects which have brought about reduced yields include aphids, colding moth, etc.

Also the early as well as late frosts and the harsh cold weather can affect the fruit trees, especially the fruit trees having early flowering characteristics such as apricot, almond and peach. On 6th April 1994, frost caused much damage and loss to fruit produce this year.

Due to being very poor, some people cut down their fruit trees and sell them in the markets.

From the different species of the wild apple and pear found in the mountains it is obvious that the area is climatically suitable for fruit trees. A wild pear specie called Shahkundi is also found in the area and is resistant to dryness.

There are 12 different apple species in different areas, out of which two are improved ones.

There are also different species of pear. The pear species found in Jurm and Baharak districts are of good size, having the storing ability of 6-7 months.

Also there are different species of apricot, cherry, peach and almond, most of which are local.

The gardening system used by farmers is old and primitive. They have not yet been introduced to the new methods such as grafting, pruning, fertilizer application, maintaining space among plants, control of insects and diseases and setting up of nurseries.

The fruits exported to outside the Badakhshan Province are walnut, pistachios, almond and dried mulberry. According to a trader, more than 2000 seers (14 tons) of walnut had been exported to Russia in 1989. This year, however, no such an export could take place because of a province wide early frost.

The walnut species found in Badakhshan are:

a) Kaghazi: This type of walnut has thin and delicate shell and good kernel, but is easily damaged during transportation.

b) Sangi: It has strong shell and small kernel.

c) Semi-Kaghazi: This type of walnut has good shell and kernel and is not damaged during transportation, therefore, it is the type of the walnut that the traders like most. Walnut trees grow naturally. The people don't set up nurseries nor do they plant them very often.

The areas where walnut is found in a great amount are Baharak (Zardiv and Sarghilan, and Wardooj valleys), Jurm, Yaftals and Keshm. Walnut trees are found both in irrigated and rain fed areas.

Mulberry is one of the main fruits of many parts of Badakhshan. It is used fresh and dried. The wood of the mulberry trees is used as a fuel. There are different species of mulberry. The harsh winter this year has damaged the yield of mulberry completely. In some district it is used as a staple food.

V. VEGETABLES

- Climatic conditions of the area are favorable for growing different types of vegetables such as tomato, potato, okra, pepper, pumpkin, onion, carrot, beans, turnip, sugarbeet, cucumber, eggplant, melon and water melon. The farmers do cultivate these vegetables. Melon and water melon are grown mostly in rain fed areas.

- The main reasons for the reduced vegetable yields are lack of high producing types of vegetables, existence of insects and diseases, practicing primitive farming methods and non-accessibility of the farmers to extension services. Also most of the agricultural land is lalmi (rain fed) and there are no big markets either, therefore, growing vegetable is very limited. Farmers grow vegetable in the yards of their houses or in small gardens mostly for their own use.

- In some areas, muddy water also causes damage to vegetables. The mud, when silted, blocks the irrigation channels, cleaning of which requires too much labor and time. And the muddy water that makes its way to the field, creates crest over the surface of the land. This inhibits the germination as well as the growth of the vegetables.

- Weeds and parasites such as Zardpechak (wire type yellow plant) and Shongol (feeding from root of the plant) cause damage to vegetables.

- Insects that pose a great threat to the growth of vegetables are cut worm, wire worm, cabbage cater, pillar, etc.

VI. INDUSTRIAL CROPS

The industrial crops, grown in the irrigated areas of the province, are sesame, mustard, flax, sunflower and poppy. Most of these crops are grown for oil and oil cakes. The oil is used in cooking, while oil cakes are given to animals during winter.

According to our findings, on average, 1 kg of oil is obtained from 5-6 sunflowers seeds, while the same amount of oil is extracted from 4 kg of sesame or flax seeds. The extraction is done using the locally made instruments moved by animals.

The price of the oil extracted from the above mentioned crops and of that imported from outside is about the same. The price of the oil imported from outside is Afs.4000/kg, while the local oil from sesame is Afs.4100/kg and the oil extracted from mustard and sunflower is sold at a price of Afs.3800/kg.

The straw of poppy and sunflower is used as a fuel, while that of sesame and mustard is given to animals in winter.

Poppy is deliberately grown in Khash, Drayem, Argu and Jurm districts. The rise in the poppy cultivation in the province is because of its being an extremely good source of income for the farmers.

Most of the opium product is sold outside the area near the border, while a little amount is used by the people themselves. The yield of opium in per jerib of land is 5-8 kg and the price is Afs.180000/kg on average.

VII. FORAGE

Forage crops raised in the area are clover, alfalfa, peas, vitch, etc. Vitch is grown in both irrigated and rain-fed land, while the rest are cultivated in irrigated land only.

Vitch (locally called Pa-Tek) can be stored as hay or used fresh, but its seed, ground together with wheat straw, is given to animals in winter and when eaten by the people (because of poverty) it causes paralysis to the legs.

Clover is raised in Baharak and Jurm districts together with wheat. It is grown in early spring in the wheat fields. It is cut after the wheat is harvested.

Besides the above mentioned forage crops, the farmers also collect and store some wild crops, which are given to their animals in winter.

Because of lengthy winters the amount of the forage crops found in the area is not adequate. Hence they cost a lot and it gets more expensive during winter. For instance, a bag of white hay (5-6 seers) costs Afs.5000. This has prevented the people from keeping enough livestock during winter or being able to expand the number of their livestock. This is a very unfortunate constraint for the expansion of woolen handicrafts.

Every year a great number of animals die because of lack of forage, malnutrition and incidence of different types of fatal diseases.

VIII. FORESTS AND PASTURES:

About 20 years ago, a large part of Badakhshan was covered with thick forests. The fruit and forest trees that still exist on the hills and mountains are pistachios, walnut, almond, shakandi (pear like fruit tree), cercis, dalwana and pine.

It was mentioned in Jurm District that pine (wood), because of its abundance, had even been used instead of stones to cover graves. Also some pine trees that are still visible in the mountains suggest that the area used to be a thick forest.

Since Badakhshan is a province having harsh and lengthy winters, the people cut down the trees and sell them in the bazaars. Also population increase and shortage of food in the province has compelled the people to chop down the trees and turn the forests and pastures into lalmi (rain fed) agricultural land.

Forest and pastures' destruction has resulted in soil erosion, repeated occurrence of floods and land slides.

The land slides which occurred this year caused considerable damage in Yaftals, Ragh, Argu and other parts of the province.

Badakhshan has plenty of small and large pastures, either owned, or shared by different villages. The use of these pastures is very irregular. This has resulted in creating damages to the pastures and deteriorating their quality.

The famous pastures of the province are Shiwa, Piazi, Kargas, Rish, etc. Tens of thousands of livestock from the neighboring provinces also use the Shiwa pastures every year.

The people in some areas pull up the plant called Shireen Boia (from which liquorice is produced) by its roots and sell them in bazaars. It is sold at a price of Afs.1500/seer. Besides there are also other types of plants used in medicine that people sell them in return for cash. This also results in damaging the crops and creating further erosion.

Non-fruit bearing trees such as poplar, willow, Russian willow, pine and sorb are also found in large numbers in the province. They are planted along irrigation channels, on path sides and on the agricultural land borders between neighbors.

The climatic conditions of the area are favorable for poplar and willow raising. A poplar tree can be used after ten years of its being planted. Borrers pose a great threat to poplar trees.

IX. CROP DISEASES AND INSECTS

The main diseases that affect the crops are rust, smut and bunt. Mostly wheat falls victim to these diseases.

Besides the diseases the insects damaging the crops are cutworms, aphids, colding moth, borrers, wire worms, cabbage caterpillar, locust and pubescent or stinking worms.

Weed is also a great threat to the crops grown in Badakhshan. The weed types found in crops are rye, oats and reeds besides the wild types such as Shakhlai, Gandumak, legumes and other broad leaves.

The farmers have never tried weed control measures since they are often ignorant of its likely harm, neglectful, and afraid of damaging the crop while destroying weeds. Also the weed elimination will reduce the amount of the white hay that the farmers desperately need (so it seems to have some benefit!).

Moreover, the farmers are not practicing crop rotation, effective in avoiding build up of weeds.

There is also widespread incidence of the pubescent or stinking worms in the area.

X. ANIMAL HUSBANDRY

The livestock the people raise are cows, oxen, goats, sheep, donkeys and horses. Each farmer family who has the means and can afford it normally raises 1-2 cows, oxen and donkeys and 5-10 goats and sheep. However, there are some people who keep a large number of animals, especially goats and sheep.

Nutritional stresses have affected the productivity of the diary animals and has given rise to diseases. For instance, a dairy cow gives only 3-5 kg of milk in 24 hours and the milking period is from 5 to 6 months in a year.

In summer the animals graze in the nearby and remote pastures, while in winter they remain indoors and are given the crop residues, barley, clover, vitch, millet and other wild crops.

The undernutrition and shortage of animal feedstuff has made the animals weak and susceptible to diseases and deaths. The losses happen in late winter and early spring. According to the veterinarian of the provincial agricultural department, the animal death toll "was 40%" this year!

The price of an ox is Afs.150000, a dairy cow Afs.170000 and a donkey Afs.200000. The animals, especially sheep, are 30-40% cheaper in Badakhshan than in Takhar. People from Takhar, Kunduz and Baghlan provinces bring tens of thousands of their livestock to Shewa for grazing and remain there for 4 months. According to the provincial veterinarian, "5 million" animals come to Shewa every year. In autumn most of these animals are sold to traders who take them to other parts of the country, while the rest go back to their respective provinces during the months of September-October. This year many flocks were returning earlier because of a disease which was said to be fatal.

Bee Keeping:

The conditions of parts of Badakhshan Province, especially Jurm and Baharak districts, are favorable for bee-keeping. Therefore, the Afghanaid honey bee-keeping project has proven very successful. The satisfactory result of beekeeping in these parts of province is because of the following reasons:

1. There is abundant amount of water as well as irrigated land.

2. The climatic conditions are favorable i.e., neither too dry, nor too humid and mostly sunny.

3. The apiary location, having no strong winds because of being surrounded by high mountains, is ideal for bee-keeping.

4. There are plenty of nectar-producing plants such as blossoms of different fruit flowers and non-fruit bearing trees such as willow, poplar, medicine plants, clover, wild clover, sweet clover, mustard, sesame, sunflowers, maize and poppy as well as different types of vegetables such as spearmint, etc.

5. Different types of flower plants grow in the area from March to October.

6. Agro-Chemicals have never been used in the area to control pests and diseases, thus, enabling the air to remain unpolluted.

However, there are also certain factors causing problems to apiculture. Lengthy cold winters are one of these problems, resulting in reducing the season of work, affecting productivity, weakening the bee families and causing considerable losses to honey bees. This also necessitates artificial feeding and extra work.

Some parts of the province such as Faizabad, especially Chata (located by the Kokcha river and some 4 km from Faizabad), and irrigated parts of the Argu district have plenty of crops, hence are suitable for apiculture activity.

Poultry:

The poultry the farmers raise are of local types.

The chickens themselves and their eggs are not only used by the farmers, but they are also supplied to the markets.

Owing to being of local types, the chickens give a low yield and most of them don't lay eggs during winter at all.

There is not a single poultry farm on the provincial level. Since the prices of grains and cereals are very high in the province, people can not afford raising a large number of chickens. Furthermore, the incidence of a disease called newcastle and lack of

Large relief operations, in as much as they are very needed, will only be responses of a temporary ad hoc nature (and of course that is precisely their purpose). Knowing the remoteness of the province and the formidable constraints on the way toward it even relief supplies can not be easily transported and distributed.

Something more fundamental, more enduring and hopefully more permanent, is needed to enable at least a beginning of a crack in the siege over time.

This paper is an attempt to elaborate on what has been said above with the intention of focusing on the most pressing of the problems, that of acute food shortage, and proceeding toward a conclusion. Recommendations emanating from the findings and observations will then follow.

vaccination facilities and medicine required for treating sick chickens have prevented the people from large scale poultry raising. Finally, there is not much of a market for poultry products, i.e., one egg is sold at a price of Afs.80 in Faizabad whereas it is Afs. in Tekhar (despite the fact that most other food items are more expensive in Faizabad compared with Takhar). So the incentives for this activity are little.

The people are still using local methods of multiplication; namely eggs hatched by hens.

XI. ANIMAL DISEASES AND PARASITES

The main diseases affecting the livestock are black leg, Anthrax- found mostly in sheep's and goats' feet and mouth and CCP. Sometime these diseases prove fatal. Meat of the livestock dying of ccp can never be used. Intrötoxima and internal parasites such as liver, lung and stomach worms and external parasites such as tick, etc. are also found in the animals.

According to our survey, there is no clinic for livestock in the province, nor any medicine, or vaccination facilities although 12 people have been given veterinary training, and there are some veterinarians in the province too.

The bacterin diseases such as newcastle that affect the poultry are very common, causing mass death. External parasites and cold weather also affect the chickens. This is another reason for hesitancy and reluctance in raising poultry.

Due to the above-mentioned problems, a large number of livestock is lost every year. The graph of the losses gets higher during winter owing to undernutrition and lack of animal feedstuff.

XII. RECOMMENDATIONS

i. Wheat:

Wheat is the most important crop of the people. According to our survey findings, a family of 10 people consumes about 12 kg of wheat flour in 24 hours. To improve the wheat yield, it is recommended that:

a) A permanent trial and multiplication farm must be set up in one of the districts of the province, or in the neighboring province of Takhar. By doing so, different rain fed and irrigated wheat varieties would be put into trial and new and better varieties would be multiplied and distributed to the people.

b) A strong and well organized extension system should be created so that the latest information could be supplied to the farmers on time, and the agricultural development activities could be spread to new areas. The process could be pursued in the following manner:

1. Obtaining small amount of improved wheat varieties from guaranteed sources by contacting Afghan, Pakistsni and international NGOs or sources.

2. The seed varieties obtained need to be tried, multiplied and introduced to the farmers on permanent basis.

3. Setting up permanent wheat demonstration plots in all project areas, especially Ragh and Darwaz (but also in Keshm and Baharak).

   The plots need to be situated by public roads or paths and must be given a lot of care and attention. The farmers must also be involved in the process.

4. Before carrying out multiplication and distribution of improved seed varieties and fertilizer, information about the farmer, amount and source of the irrigation water and type and conditions of the soil must be obtained.

5. The seed must be treated prior to distribution and the necessary information, either verbal or written, must be given to the farmers (Badakhshan has good potential for the utilization of written materials if simple and clear; this possibility should also be explored in due time).

6. A contract has to be made with the concerned farmers to thresh the wheat separately, clean it and sell the required amount back to Afghanaid at the current price. It would also be better to give it to other farmers in return for other varieties. This will make the multiplication process rapid, and also Afghanaid won't need to collect the improved wheat from remote areas every year.

   It is worth mentioning that the contract be applicable only to those wheat varieties the seed of which is distributed by Afghanaid.

7. In order to obtain pure seed and determine the accurate amount of yield in per unit of land, crop cut and rouging practices need to be introduced.

8. The farmers must be provided with herbicide and trained in the methods of controlling weeds at appropriate times.

9. Crop rotation systems must be introduced and the farmers be made aware of the suitable time, amount and methods of collecting, storing and applying animal and green manure and chemical fertilizer.

10. The farmers should be taught on how to terrace the sloped land using a simple "A" Frame.

11. The Afghanaid local staff, government agriculturalists and experienced and educated farmers need to be offered training courses according to a timetable and organized plan. Also field days should be held, twice a year at least.

12. Setting up a small farm in a part of the province for conducting important and simple trials of wheat varieties.

13. Essential farming equipments such as thresher and tractor with all its accessories need to be provided to the Afghanaid permanent farm (see point a. above)

14. Improved varieties of maize and barley need to be provided, tried and introduced to the farmers.

15. Seed treatment by fungicides should prevent yield reduction caused by smut and bunt.

ii. Fruit:

Since Badakhshan is one of the most remote provinces of Afghanistan and has no easily accessible good market for fresh fruits outside the province ,there is no immediate need of multiplying the kinds of fruits used fresh (although concentrating on its quality in the future as well as extension programs to improve the fruit varieties will be advisable in the future). On the other hand, the kinds of fruits used dried such as nut fruits and stone fruits, need to be improved and multiplied.

To promote skills in nursery, pruning, irrigation, use of fertilizer, grafting and controlling diseases and insects must be the activities which Afghanaid should include in its future plans. These activities could be carried out as follow:

1. Identification of experienced and volunteer farmers and gardeners, selection of land and irrigation source and preparation of contract prior to setting up of nurseries on the land of the farmers by the farmers themselves.

2. Providing these farmers with seed, essential gardening tools and fertilizer, free of charge, but for the first time only.

3. The size of the nursery should be ideal (i.e., not too large) and the nursery be set up in different areas as the need may dictate.

4. Continuous contact of the extension workers with the farmers and giving them useful advice, as required, regarding setting up nurseries, irrigation, weeding, use of fertilizer, pest control, pruning, transplanting the sapling and establishment of the gardens is recommended.

5. The saplings, raised in the nurseries, should be either purchased by Afghanaid from the contracted farmers and sold at a suitable price to other farmers, or the contract farmers themselves should do the same.

   By implementing the above mentioned programs, not only a number of farmers would be trained in horticulture, but the gardening techniques will also be promoted in the area, and the saplings ready for planting will be of the improved varieties.

iii. Vegetable:

In order to improve the quality of the vegetables grown in the area, the following activities are recommended to be carried out:

1. Improved, fast growing and high producing varieties of vegetables need to be provided, tried and introduced.

2. Plastic tunnels need to be introduced and the farmers trained to grow the vegetable seedlings in the plastic tunnels at the appropriate time.

3. Badakhshan has suitable climatic conditions for growing vegetables. Therefore, a large scale introduction of seed production is recommended so that the seed produced could be supplied to the markets outside the province.

4. Setting up of vegetable trials in different project areas.

5. Introduction of storing techniques, especially for potato, onion and turnip.

iv. Forestry & Pastures:

- To prevent the trend of cutting down the fruit bearing and non-fruit bearing trees grown on the hills and mountains and changing the pastures into rain fed agricultural land, extension programs are needed to be extended to the people so that they are well aware of the harmful consequences. The best places of contacting the people are mosques, schools, etc. Also booklets, posters and pamphlets will be useful.

- Nurseries of fruit and non fruit trees such as almond, walnut, poplar and willow should be set up so that cuttings and saplings could be provided to the farmers. Also the farmers need to be trained on how to raise the cuttings and saplings.

- Extension programs must be implemented to rehabilitate the fruit and non-fruit bearing trees; especially on the nearby hills, in barren land, along springs, rivers, irrigation channels and on the field borders.

v. Crop Protection:

To control insects, a safe and effective spraying program needs to be carried out. Also, a composition of the materials found in the area such as pepper, garlic, soap, tobacco, lime and kerosene should be tried and applied on the crops.

Regarding control of crop diseases; especially rust, bunt and smut, it is essential to treat the local varieties of wheat every year and introduce disease resistant varieties by carrying out effective agricultural extension activities in the area.

One or two persons have to be introduced for a course, in which they will be taught the ways of controlling the diseases and insects common in the provinces where Afghanaid is active. These two then will implement the dissemination of crop protection program in the areas.

vi. Animal Husbandry:

The animal husbandry of the province is in a very bad condition. There is not a single clinic in the whole province although there are a number of professional people in the province.

Some animal clinics need to be established in different districts of the province; especially a mobile clinic for 5 months of the year in Shewa area is desperately needed. This could be done by Afghanaid itself, or the matter could be referred to other relevant agencies.

vii. Bee Keeping:

According to the information related to the bee keeping project, Afghanaid is planning to close down this program in 1994. However, the number of distributed bee families in Jurm, Baharak and Faizabad is not sufficient. Besides the above mentioned areas, Faizabad, Chata and some other places along the Kokcha River as well as other areas toward Qara-kamar are very suitable. Moreover, the communities have shown their interest in this project. Afghanaid, by training some staff and providing them bee keeping tools, can play an important role in spreading this income generating activity. Its closing down is definitely unwarranted.

viii. Poultry:

Based on the interview with a number of farmers, the Poultry project will not be very useful due to the following reasons.

1. Due to the lack of feedstuff and the high prices of, especially, cereal crops which are the main feedstuff for poultry.

2. Due to being a remote province, vaccine, medicine and other required materials cannot and are not provided on time.

3. There's not much of a market for poultry production. According to our findings, the price of an egg in Badakhshan is Afs.80-100, while in Takhar province the price ranges from Afs.150 to Afs.180 despite the fact that the general price level in Badakhshan is much higher.

4. The large scale death toll of poultry has forced the people not to show great interest in poultry raising.

Note: For reference purposes it was noted that the following organizations are said to have or have had a presence in Badakhshan.

1. NAC
2. SCA
3. PRB
4. AAD
5. WFP
6. WHO
7. UNCHO
8. UNDCP
9. MSH
10. AVICEN

APPENDIX II

ENGINEERING REPORT

By M. Saeed Mokhtarzada

The assignment was to survey the more critical parts of the Qara-Kamar Road. The survey took three weeks, in separate intervals, and a total of 24 places were surveyed by the planning team's two survey teams. Of these seven places were found to be the worst in terms of obstructing traffic most readily and which needed attention more urgently. This finding was based on our own detailed visits and enquiry from drivers and some persons. It was fortunate that the survey work was being carried out in July when the water level was at its highest (specially this year). These seven places were:

No.	Place	Distance from Faizabad (in km)
1.	Reegey	68
2.	Bridge over Argu River	65.5
3.	Shah Wazir (Qochi)	58
4.	Qara Kamar (narrow part)	43
5.	TOGHAK	40
6.	Now-Sholash (Kafter Kha-ne)	36
7.	Samati	28.8

In addition to the Qara-Kamar Survey the Now-Abad (located in Nahia-3 of Faizabad city) water supply, and the site for a pedestrian suspension bridge at the village of Bagh-e-Mobarak (about 20 km from Faizabad) were also surveyed. Both can not be undertaken as projects presently. The first because of possible conflict with the Electricity Department over use of water from its canal, and the second because of lack of consent of those through whose land, the right of passage to the bridge has to be secured (or settled). Both were undertaken at the suggestion of Mr. Alam Siyal.

Furthermore the necessary information for the <u>repair</u> of two bridges was obtained. They are Pree-kha-ne and Nawee Jurm bridges. Both are on the way to Jurm and with this "preventive" repair will be saved from gradual destruction. For the first bridge Afghanaid had built the wooden superstructure (the top part) of it. Both are vehicle bridges.

The site of a possible foot bridge at Shifchan village over the Jurm River and on the way to Khostak was also visited. It can not be undertaken because of conflict of interest between some villages. It was visited at the suggestion of Dr. Logar Khan.

The site of Khostak Canal built by Afghanaid in 1992-3 was also visited. One could not but be impressed with the difficult construction work that had culminated in its completion. <u>It is indeed unfortunate that water is still not flowing in it because of some leakages and intake problems.</u>

Two other possible engineering project sites were visited and assessed. They were Lie-Abeh village, 18 km from Faizabad, and Shahre-Nou Canal (providing water for the new parts of the city of Faizabad and six villages down stream). Both were considered not feasible for Afghanaid. The first required extensive flood control arrangements possibly on both banks of the Kokche River and the second required special equipment for the construction of a large intake arrangement according to our engineers. Both were definitely needed.

RECOMMENDATIONS

1. The Qara-Kamar sites should all be constructed. The seven most "critical places should be undertaken as soon as possible and when the water level is quite low.

2. The repairs of the two bridges should be performed rather soon in order to prevent a larger cost and road blockage later.

3. Khostak Canal matter should be reviewed and appropriate steps advised.

4. For the time being, in Badakhshan, all Afghanaid engineering resources be mobilized and concentrated on the undertakings of the Qara-Kamar vital road.

5. The Sheeva-Shighnan road should not be left uncompleted. It is needed and most of its work was already completed by Afghanaid in 1993.

6. The possibility of road extension to Ragh and Darwaz in the future be considered and the likely participation of other NGOS in the undertaking also explored. Darwas is said to be the most poverty stricken district of the province.

II

AN OVERVIEW OF THE PROVINCE

Badakhshan, this most north-eastern province of Afghanistan, is fifth among the country's provinces in area (43,600 km^2) and with 380,000 inhabitants was sixteenth in population in 1973 (when the last of the more "reliable" statistical information on Afghanistan was published by the Ministry of Planning). Presently its population is supposed to be aground 600,000.

It ranks ninth, according to the same source, in terms of cultivable land area with 909,600 jareebs (181,920 hectares). Of this a third is considered irrigatable and the remaining rain fed. Presently it is believed that the share of irrigatable agriculture is less or has been lessened, perhaps due to the fact that not all irrigation systems are as of yet in proper working order. Also must be noted the fact that ploughing rain fed hills which have already had their vegetation cover cleared may be easier than rehabilitating or maintaining the frequently vulnerable irrigation systems.

The province is among the most mountainous in the country and is also among the most abundantly supplied with water and rivers (perhaps competing only with the province of Konar); the main one being the rapid flowing fierce Kokcha River.

The province used to have hills covered with forests, bushes and herbs. While in Faizabad this year Mr. Khaurin, the Afghanaid forestry specialist, said he had come to this city from Takhar in 1975. He had not come here again until this year, 1994. He said 19 years ago the hills along the Qara-Kamar road were covered with mixed forests of cercis (redbud), fraxinus(heaven tree) and pistachios. Other hills were scenic pastures. Furthermore, both lower and upper Yaftals (large parts of Faizabad provincial district) were covered with dense vegetation of Glyserhezia Glubra (a very important bush both medically and commercially especially as an export item). Now they are finished. He said he "could not believe he was passing through the same area".

Below will be presented in summary form aspects of the present overview:

1. The Economy

I was in Badakhshan during the last two weeks of September, 1993. There was a noticeable difference this year. Last year to my enquiry concerning problems and difficulties I would hear lack of opportunity to work year round to augment low incomes, lack of access to medical facilities of any kind, insufficient fodder during the long winter for their few animals, difficulty of transport and so on; but never reference to food and hunger. This year, however, not only was food and its shortage mentioned first but also sometimes the speaker would move his hand toward his mouth and say food simultaneously. This scene was quite depressing. So the economy can not even feed itself.

At any rate considering the low man-land ratio and the fact that the climate is usually agreeable to agricultural activity and animal husbandry (especially cereal crops such as wheat, barley, corn and even rice, in the district of Keshm, as well as pastures in the

Shewa area) it would seem that the province should be more than able to be not only self-sufficient in most food items but also be able to have surpluses of most fruits. However, this is definitely not the case now and traditionally Badakhshan has rarely been self sufficient in food (particularly wheat). Traditionally also the province has been among the poorest in the country and has been among those receiving the least amount of government developmental attention during the "era" of the Five Year Plans 1956-1976 (like several other provinces in Afghanistan).

On the whole, therefore, it is correct to suggest that the inadequacy of the agriculture based economy of the province is a human problem and not primarily due to its vulnerability to nature although it can compound things (this year's special food shortage will be discussed in the next section). The human caused reasons over time may include:

a) The over depletion of the soil.

b) Peculiar attitudes or customs such as no habits of crop rotation, weeding, or seed cleaning and no use of manure of any kind for cereal crops (animal dung is used exclusively as fuel).

c) No habit of terracing of agricultural fields in many parts of the province.

These factors alone are enough to result in very low yields. When to these are added the possibility of damage caused by nature such as crop diseases, insects, and climatic misfortunes, then the present situation can be expected, despite the fact that the cultivation of rain fed land on hills is literally to the point where the cow can go and pull the plough without falling or slipping. The agricultural sector is further analyzed in Appendix 1.

2. Concerning Food

The "haves" eat the traditional foods generally eaten in Afghanistan. The "have-nots" usually eat the following:

a) Atalah: Just boil some flour (sometimes with leek) and eat it with a spoon", said a villager in Now-abad (in district-3 of Faizabad). "It is only good to silence the children" he added. When this is more dilute it is called "Gard-Aabeh" literally meaning powdered water.

b) Aash: Consists of flour made into dough (pasta), allowed to dry, and cut into thin strips (like thick spaghetti) and kept dried. This is boiled in water with leek also thrown in. "When children complain too much about being hungry we tell then o.k. lie down and we'll cook you some aash. Often they go to sleep" added another person from the same village.

c) Brinj-Aabeh ("watery rice"): Consists of "a little bit of rice boiled in pure water". Pure water is emphasis that there is no cooking oil in it.

d) Talqaan-Ghaamoo: Ghaamoo is a plant which is used to feed cows and has a bitter taste. First it is boiled and filled in a sack and placed in a canal immersed in water for about 24 hours after which it is taken out and allowed to dry. In this way the bitterness is removed. Next it is mixed with some barley and milled. Now it is ready to be eaten if it is just mixed with water"; for it can not be cooked like bread" they explained.

e) A certain crop, (like a triangular peas) called, Pa-tek locally, which if eaten for several months is said to cause partial paralysis of the lower limbs. This scourge is said to have no cure! The Latin name of this plant is Lythus Sativas.

In the village of Hafez Moghul the author and Mohammad Waheed visited a family inflicted by this problem; Mohammad Juma, twenty, and Abdul Motallib; the son of his sister, eight years old. Mohammad Khan, the father and grandfather of the two respectively, said "even though they knew they were eating calamity it was winter, it was cheap and there was nothing else we could afford. After it showed its effects we stopped eating it. You see this is good for the cows, it makes them strong". The widely held view is that if after eating you happen to be in the sun (summer) or well warm inside (winter) and you perspire then its infliction is definite! The son could not walk without considerable support but the grandson had so far only been affected from the ankle down and could walk abnormally.

There is also the popular drink called Shor-Chai (salty tea), a specialty of Badakhshan. It consists of a heavily boiled mixture of black tea, milk with salt. For those who can afford it, it is drank everyday at breakfast. For the less fortunate it is accompanied with bread and forms one meal. Tea is a heavily consumed item.

Even though learning something about the type of foods poor people eat can reflect on their degree of poverty and we thought we had a picture of the worst **it was amazing to hear people who were themselves very poor tell us often that the situation in the districts of Ragh and Darwaz as well as Khwahan was much worse.** The above information on some foods was not obtained in those areas. There some are boiling the roots of a certain bush instead of tea because they cannot afford tea. "It just gives color to the boiled water" some said. Salt is Afs. 2000 per seer (7 kg) in Faizabad but was Afs. 10,000 in Darwaz ! There are no roads to these places. Round trip from Faizabad to Darwaz takes about twelve days by horse and longer by foot. They are poorer and have to pay higher prices.

Sitting in a tea shop after visiting two villages (20 km from Faizabad) with three other members of the planning team we met an old man from Ragh district. He had very worn out clothes with several patches. He complained that because of no rain the rain fed wheat was "burned" (negligible yield)."Escape and abandonment is by the thousands. Even bays (the local large landowners and wealthy elite) don't have 5 seers of wheat this year". While talking he offered us the bread which he had with him. We took a small piece. It tasted like hard cardboard mixed with sawdust and was hard and brittle. Taste of flour could not be detected in it.

"Now I have come here to work in harvesting wheat for pay. I had never done this when I was young",continued the old man. As he was talking he reached for his knee-high rubber boots (second week of July). He took two pieces of cloth put one under his foot and folded it over his toes and brought it over to about the height of his ankle and then put on the boot. The sides of his foot were left naked. He had no socks. After he had finished putting on the second boot he got up to go. As he was going he said "I did not think I should work at this age nor did I expect it. Now in my old days I have to do it". He went away. He was too absorbing and too occupied with what he said. So we did not interrupt him to ask questions.

3. Prices And Roads (And A "Helpful" Commander)

The joining together of these two different subjects is not an accident. It is because Faizabad prices seemed to be affected more by the condition of the roads than by any other single factor.

There is only one road that links Faizabad to Takhar Province on the west (known as the Qara-Kamar road meaning black waist in Uzbeki) and only one road which connects it to the rest of Badakhshan (via Baharak, to Eshkashem, or to Zebak, or Jurm or Karano-Munjan). It is the Qara-Kamar which is the lifeline of the province.

In early June this year price of wheat was over two times for the same period last year, and this was much less than in March when it was about four times more (that is ten thousand Afghanis per seer [7 kg]) when the road had been completely blocked by snow. By late June as the weather became hot prices began to rise because the snow was now melting faster and the water level rose more. By early July prices reached nearly three times the level they were last year at about the same time.

When the survey of the Qara-Kamar road began in early July it was actually possible to count a total of 35, Russian built, Kamaz trucks (the only trucks which can manage on this road) carrying wheat standing still (12 at Reegey, 18 at Toghak, two half-drowned in water and one, half-buried in mud, one broken down and one parking in Aaten-Jelou and its driver asking our driver if it is possible to go through the Argu road).

Speaking to the drivers waiting at Toghak we were told that it was within their ability to repair the part of the road presently blocking their travel since they were 54 persons (the driver, the lorry attendant and the owners of the merchandise for 18 trucks, plus a few hands from the village) if it wasn't for a certain commander Bassir (not to be confused with the famous commander Bassir in Faizabad) who asks to be paid so that he can have his men repair it and will not allow us to take care of it. The drivers had paid this commander but he had done some work and then had stopped work and was asking now for more. They did not want to pay more. At this point one driver with his head down said "let's not talk about this commander any more since you all know that a stone fell on his head hurting him quite badly and it was with delay and difficulty that he was taken to Faizabad Hospital. So God gave him his due". It was learned from these drivers as well as other drives and persons that in Badakhshan the drivers do indeed spend several laks (one lak = 100000) a year in repairing and "maintaining" the roads.

Not surprisingly, all these trucks were carrying wheat brought from Taloqan. Their load was about 1500 seers each (10.5 metric tons) making the total over 350 tons. The effect on the price of wheat in Faizabad upon the arrival of this amount was clear. Thirteen days later the water level dropped a little enabling most of the "convoy" to reach Faizabad and beyond. Prices in the city fell at first by about Afs. 1500 per seer making it around Afs. 5500 per seer and still lower to Afs. 4500 and less as the road was now remaining "open".

It should be added that compared to last year not all prices increased as much as wheat and furthermore not all food items prices fluctuated like the price of wheat. For example the price rises from last year for rice, meat, salt, tea and sugar were approximately 70, 30,35, 30 and 100 percent respectively.

It was revealing that the two most abundantly supplied commodities in the Faizabad bazaar were tea and fuel wood (the latter from early morning to about 10 A.M. loaded on mules). Almost every type of shop had tea. The availability of the fuel wood was an assurance that deforestation was proceeding successfully. Both items were not cheap. It might be mentioned also that the shops in Faizabad were rarely full of their merchandise. In fact many shops had many (sometimes near half) of their shelves empty--an indication of not too much purchasing power.

Roads are in very bad condition and in disrepair forcing four wheeldrive vehicles to occasionally literally crawl.There non- existence (five provincial districts do not have any road access--Ragh, Darwas, Khwahan, Shahre-Bozorg and Sheghnan) and their inadequacy put additional burdens on the inhabitants of Badakhshan which include:

a) High and rising transportation costs. The change per seer of merchandise from Taloqan to Faizabad was over 60 %, from around 900-1500 Afghanis compared to last year.

b) Enormous difficulty of access for everything (travel, transport, passengers, medical facilities, markets, assistance and relief operations, etc.).

c) High expenditure of the element of time. Men go by simply walking, females and goods on mules. No wonder the price of mules is higher than cows (Afs. 200,000 and 170,000 respectively). Only Bdakhshan can insult cows so gravely.

d) Much inconvenience and discomfort.

4. Health And Hygiene

It is to be expected that poor and inadequate diets increase the human body's susceptibility to disease by reducing its power of resistance. The problem is that when this inevitable eventuality occurs it is costly because scarce money which could be spent on other much needed things including food has to be spent on treatment. The other cost to the individual and his family is his reduced power to work. So poor people eat less, have less energy to work, and therefore earn less but must also bare the burden of more illnesses which in turn reduce their earning power which keeps them poor if not poorer, thus completing the circle that seals their fate.

Also it is to be expected that potable water is not available but additionally one must drink muddy water and tea during Spring and part of the Summer. Wells are not a custom and they are not dug. There is much unfounded resistance to the idea. Humans and mules carrying water for drinking and household purposes is a common sight despite the abundance of water in Badakhshan. Health facilities are inadequate and very poorly supplied and concentrated in Faizabad. Malaria and diarrhoea were the more frequent complaints.

A custom peculiar to Badakhshan (Panjsher and parts of Parwan as far as it could be ascertained) is the imposition on the born infant to urinate through a wooden instrument in the shape of a Western smoking pipe. There is a hole in the mattress and a pot is placed under the crib. The instrument is tied to the infant with the other end going through the mattress. In this way the infant never wets his/her clothes or crib. In this way also the infant must always be lying in the flat on the back position as long as he is in the crib and in fact he is tied so that he stays in that position and never on any side. This practice is continued for the baby whenever he is in the crib.Thus the baby and the crib are always dry and clean.

5. Literacy And Education

Without doubt among the 22 provinces the author has visited Badakhshan must have the highest rural literacy rate in Afghanistan. There is also an interestingly unique quality of speech among many people.

There is much eagerness to attend schools in rural areas. Children of the first grade walk upto more than an hour to school. Unfortunately, however, the conditions of schools by no way match this eagerness or enthusiasm. There are no school supplies, no desks and chairs, often buildings with no windows or sometimes even a proper entrance to the building so that you do not stumble over, and so on. There are teachers, particularly women, paradoxically even in rural areas where there are no girls schools. This is all. Very unfortunately also is that presently quality has declined very damagingly. Some 4th and 5th graders could barely write their names, recite the alphabet in proper order, or perform simple addition or subtraction without difficulty and could not do division. All school supplies are provided by parents (and now including textbooks). Teachers' salaries are "paid" by the government. Like other government employees (i.e., the Agricultural Department personnel) they have not received their salaries for three months.

There is only elementary and secondary education and a teacher's training school. There are no other vocational schools.

Dismaying is the fact that despite "high" literacy there is nothing to read. Pamphlets on materials related to hygiene, child care, simple agricultural practices which can affect output, etc., could perhaps be well received. There is a newspaper printed once a week. Its subscription was Afs 300 annually.

6. Missing

Two things were not visible often. One was smile. Worry, apprehension or gloom was more often the facial expressions one could notice. One notable exception was the village of Bagh-e-Mobarak (meaning hallowed orchard) 20 km from Faizabad and where the sight for a possible suspension foot bridge was surveyed. The other was persons between the ages of about 18 and 30. Two explanations were offered:

a) They have gone outside the province to work including to Pakistan and Iran. In the village just mentioned above 25 persons "left on 30 October,1993" said the villagers (the village has 43 families). This was a fairly widespread phenomena.

b) They serve in the military.

7. Abandonment of Ship

Because of the hardships faced by the inhabitants of Badakhshan apparently many families are leaving their villages. This was especially significant in the village of Lower Talbezang in the Upper Yaftal region with some 60 families. Here over the last two or three years twelve families left. "This year 15 to 20 more are considering and thinking about fleeing" said a villager. The deputy governor when talking about this phenomena said he has reports from Ragh district that five thousand have left there. It is said that these departing people go mostly to Takhar and Kunduz.

8. Early Return

Last year it was during the second half of the month of September that in Badakhshan the sheep flocks were returning from the grazing lands of this province (mostly Shewa) to go back mostly to Takhar and Kunduz and other provinces of the North. This was visible from the rather frequent blockage of the roads by such returning flocks. This year, however, this return began rather much earlier because of a sheep illness which had proved fatal. So the shepherds were returning them in order to save them (it was said that the disease caused a "hole" in their kidneys).

This brings us to the end of the brief overview of Badakhshan. With this as a background we can now turn to the crux of the problem facing the province.

Afghanaid

PLANNING TEAM REPORT

BADAKHSHAN

June 5 - August 10, 1994

PREFACE

This is the Report of the extensive visit to Badakhshan. The trip was a needed and well considered assignment. The two months stay and the process of need determination enabled the gaining of insights and an experience which would have been difficult to obtain otherwise. The report consists of six sections and two appendices.

The Appendix on agriculture was prepared by Mr. Mohammad Waheed and skillfully translated and typed by Mr. Rafiullah Taeb and edited by me. In my preparation for the Report I have discussed and clarified several points with our agricultural colleagues especially Mr. A. R. Manan and Mr. H. H. Khaurin and of course Mr. Mohammad Waheed. They gave generously of their time both in the field and here. Mr. Waheed is a conscientious, untiring and indispensable member of the planning team.

The personnel of the Faizabad office and especially Mr. Alam Siyal were very helpful in their cooperation and useful advice during the duration of our stay in the province.

I thank Mr. Abdul Wali for his frequent and patient advice in computer matters as well as help concerning the final format of the Report.

Finally my appreciation is due to the Senior Management for their unfaltering patience which alone permitted the proper completion of this Report. Also should be mentioned their decision to send us to Haripur for close acquaintance with PRA work. Its value can not be overestimated.

I alone am responsible for any errors or shortcomings.

Date: 22 November, 1994 M. Saeed Mokhtarzada

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Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same,

Two roads diverged in a yellow wood, and I--
I took the one less traveled by,
And that has made all the difference.

ROBERT FROST